Template for ISB Documentation of Stressors

A. General Information:

1. Name or Location of Example/Approach: European rivers

2. Literature/Citations Used: Statzner, B. and L. Beche. 2010. Can biological invertebrate traits resolve effects of multiple stressors on running water ecosystems? Freshwater Biology 55 (Supple. 1):80-119.

3. Reviewer(s): V. Resh

B. Specific Questions:

1. What stressors are considered? discharge variation, metal pollution, cargo ship traffic, eutrophication, fine sediment, salinity, climate change

2. Are stressors categorized? If so, how? As above

3. Are the relations between stressors and management objectives modeled, and if so, how? No, the authors made *a priori* predictions about stressors in various combinations

4. If stressors are prioritized, describe the general approach. Traits were prioritized in terms of the combinations tested that would have affects on similar combinations of biological traits.

5. How might this approach be relevant to Bay Delta? If the expansion and unification of existing trait databases can be achieved (which has been started in North America) knowledge about biological trait responses of lotic invertebrates to individual and multiple stressors should enable the identification of management priorities focused on: (i) individually acting stressors (manage stressor A at site X prior to stressor B at site Y); (ii) multiple stressors acting in different combinations at different sites (manage stressors A & B at site X prior to stressors C & D at site Y); and (iii) individual stressors acting in combination (manage stressor A prior to stressor B at site X).

6. Follow up regarding additional questions/literature review/etc? A large literature on this topic exists in Europe and has gained increasing interest in North America. This article contains an exhaustive amount of literature citations on this topic.